NEW TANKS RULES

May 2017 dnr.mo.gov/env/hwp/ustchanges.htm

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TESTING EDITION

MISSOURI DEPARTMENT OF NATURAL RESOURCES

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New Equipment Testing Requirements Are Finalized

10 CSR 26-2

New Installations

The new underground storage tank (UST) regulations require testing of spill buckets, overfill prevention equipment, release detection equipment and required containment sumps. For new systems installed on or after July 1, 2017, the testing requirements begin at installation.

Existing Facilities Must Start Testing in 2019

Testing must be done in accordance with the regulations and the manufacturer's testing or inspection procedures by certified or trained technicians. Testing for much of the equipment may also follow the Petroleum Equipment Institute's Recommended Practice (PEI RP) RP1200, *Recommended Practices for the Testing and Verification of Spill, Overfill, Leak Detection and Secondary Containment Equipment at UST Facilities*, 2012 Edition.

Overfill Prevention Equipment

Overfill prevention devices, like flapper valves (automatic shutoff), ball float valves (flow restrictors) or overfill alarms, are designed to prevent releases of product during delivery into the tank due to overfills. Prior to a delivery, owner/operators and drivers should always verify the amount of space available in the tank. Deliveries must be made with a lock-on connection, unless an alternative is pre-approved by the department.

To test or inspect the overfill prevention device, most equipment must be removed from the tank, checked for damage, inspected to ensure that all parts are moving freely and functioning properly, and verify that the shutoff or restrictor occurs at the appropriate level in the tank. If a ball float valve fails the inspection or operability test, it must be replaced with another type of overfill prevention, an alarm or a flapper valve.

Two overfill devices are now approved to be tested in-place, without removal from the tank: Franklin Fueling's Defender Series overfill device and OPW's 7150-T Testable Overfill Prevention Valve. Another model by Universal Valve Co. is currently under review. The tester must follow the test method, including verification that the device is installed at the correct height.

Please note, you may not intentionally overfill the tank to check the functionality of overfill devices. Videos will also not be accepted, because they cannot verify all components are moving and functioning properly.

Spill Bucket Testing

Spill buckets must be tested at installation. For existing sites, the first test is due in 2019. After the first test, all spill buckets must be tested every three years or have monthly interstitial monitoring.

Monitor or Test for Spill Basins	Frequency
Interstitially monitor	Monthly
Tightness Test	Every 3 years
First test at installation (new site) or in 2019 (existing site)	

Date	Staff	Gauge	Action, If Any
January	HP	0	
Feb	AO	0	
March	CA	0	
April	BE	0	
May	DK	0	
June	ET	0	
July	HP	0	
August	AO	0	
Sept	CA	0	
Oct	BE	0	
Nov	DK	0	
Dec	ET	0	

Spill basins must be checked during the monthly walkthrough inspections. If a site has a double-walled spill bucket, the monthly check can also document a check of the interstice (space between the walls). If this monthly interstitial check is documented, a three-year spill bucket test is not required. This sample monthly log would satisfy the monthly spill bucket check and the spill bucket interstitial check.

Unique Spill Containment Systems

All spill buckets must be tested, including unique configurations, like those below.

If a tank top containment sump *is* the spill bucket, the entire sump must be tested or a spill bucket may be installed on the riser, if appropriate. Please note, these unique spill dikes or other alternative containment may need site-specific test procedures, which must be approved by the department. Plan ahead to be prepared for the first test.

Spill Bucket Repairs

Spill basin repairs have long been a topic of debate. With the new spill bucket testing requirements, establishing what is and is not an acceptable repair for a spill basin is necessary.

Field applied epoxies, caulks and other "bubble-gum" repairs do not typically bond or adhere well, and fail rather rapidly. These repairs are not permanent.

The Insert

The new regulation allows liners that are manufactured specifically for spill basins to be inserted into a spill bucket and then sealed. The final system must be tested to demonstrate that the finished product is leak-tight.

The Manufacturer Double-Wall Kit

Some spill basin manufacturers are now making a double-walled spill basin. If the inner spill bucket fails, it can be replaced without breaking concrete. Some of these spill buckets also come with special ports to allow vacuum testing of the spill basin's integrity, instead of having to use the "water test" method described on page three.

No More Field-Applied Repairs

The new regulation change eliminates field applied repairs (used alone, not as sealant as part of a prefabricated spill-liner kit).

Release Detection Equipment Testing

While testing your line leak detector each year is nothing new in Missouri, EPA's new rule requires tank monitoring equipment to be checked annually to make sure it is still operating properly, first due in 2019.

Tests must be conducted in accordance with the regulations *and* the manufacturer's procedures by a trained or certified technician. Please note, any test equipment or procedures must be specifically approved for use by the leak detection equipment manufacturer.

Technicians should check for manifolded piping, multiple submersible turbine pumps (STPs), valves and any other equipment that might affect whether

the entire piping system is being adequately monitored by the leak detection equipment.

If a site has line leak detectors (LLDs) from more than one manufacturer, the tester must be certified for each detector to test it. Leak detector tests must simulate a leak to test the LLD as it is installed in the system. The test equipment should be at the highest or furthest dispenser or piping termination.

If you are using an automatic tank gauge (ATG), the technician must:

- ☑ Inspect probe/float for residue
- ☑ Ensure floats move freely
- ☑ Check cables
- ☑ Check batteries (unless data is stored remotely)
- ☑ Verify system configuration
- ☑ Test alarm (if testing outside alarm, this may satisfy the overfill equipment check as well)

If you are using interstitial monitoring, the sensors must be checked to ensure they are functioning properly and installed at the lowest point in the system. Follow the manufacturer's testing procedures; for example, the sensor may be removed and submerged in water to ensure it alarms. For new systems installed after July 1, 2017, interstitial monitoring must be the primary release detection (along with a line leak detector) and the interstitial monitoring equipment must be checked annually.

All operability tests should include a check of the complete tank and/or piping system to ensure that nothing impedes the equipment from detecting leaks from any portion of the tank and/or piping system.

Containment Sump Testing

Starting July 1, 2017, containment sumps are required when:

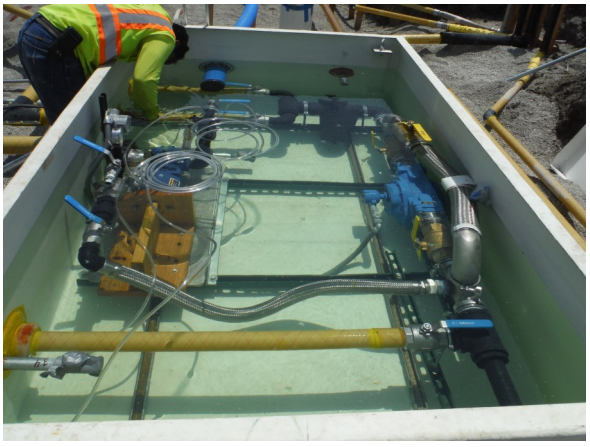
⇒ A new tank is installed (or replaced)

⇒ A new piping system is installed or when more than 50 percent of the piping on a single tank system is replaced

⇒ A dispenser and the sub-dispenser equipment is replaced. For more information on when a sub-dispenser containment sump is required at dispenser replacement, please see the department's guide at dnr.mo.gov/env/hwp/docs/ReplacingYourDispenser.pdf.

Monitor or Test Containment Sumps	Frequency
Interstitially monitor	Annually
Tightness Test	Every three years
First test at installation of *required* sump	

Spill buckets and containment sumps may be tested using a National Work Group on Leak Detection Evaluation certified method (nwglde.org) OR the Petroleum Equipment Institute's Recommended Practice (PEI RP) 1200-2012, *Recommended Practices for the Testing and Verification of Spill, Overfill, Leak Detection and Secondary Containment Equipment at UST Facilities*.



Outlined here are just few of the steps (please note, this is not a complete edition of the RP and may not be used as the protocol):

- √ Check the liquid level in the backfill
- √ Close boots and remove sensors
- √ Fill sump or spill basin
- √ Test for one hour
- √ If the water level change is less than an eighth inch, the equipment PASSES

Tubing to connect the interstitial spaces of piping while bypassing the fittings, connectors and valves may not be used, as the single-walled fittings, connectors and valves must also have monitored containment sumps. Containment sumps should have a sensor in each containment sump. If only one sensor is used at the lowest point of the entire piping secondary containment (i.e., one sensor in the tank top sump with all piping secondary containment open and communicating), then the entire piping secondary and all containment sumps must be tested together as the entire secondary serves as one single containment sump. This configuration is not recommended.

Sumps should be cleaned prior to testing. IF the sump is clean, testing water may be handled in accordance with the department's guidance "Removing Water from Gas Station Containment Sumps" (dnr.mo.gov/pubs/pub2640.htm). If the sump is not cleaned, water and product mixtures may have additional storage, disposal, and handling requirements.

Equipment Check	Testing or Monitoring	Record Retention
Overfill Prevention		
	Equipment Test/Inspection	Three years
Spill Prevention		
	Tightness Test	Three years
	Interstitial Monitoring	12 months
Containment Sump		
	Tightness Test	Until next test (three years)
	Interstitial Monitoring	12 months
Release Detection		
	Operability Check	One year or next test

Recordkeeping

Records documenting required equipment checks, inspections or tests must be retained.

The New Regulations Are Finalized

The new regulations are now available on the Secretary of State's webpage at: sos.mo.gov/cmsimages/adrules/csr/current/10csr/10c26-2.pdf.

For more information about all of the new requirements, please visit our webpage about the rule changes: dnr.mo.gov/env/hwp/ustchanges.htm.

New Publications Available

Missouri's Musts for USTs provides information about the new operational UST regulations, including the new double-walled system requirements, release detection, corrosion protection, recordkeeping and more. dnr.mo.gov/env/hwp/docs/MissouriMustsforUSTs.pdf

Missouri's Straight Talk on Tanks provides guidance on release detection, options, and helpful tips for each method. dnr.mo.gov/env/hwp/docs/StraightTalkonTanks.pdf

Stay Informed

The department offers a free e-mail service that will provide information on the new UST rules, current issues relevant to the UST regulations, announcements of training events and more. If you would like to receive e-mail updates on these regulation changes, go to public.govdelivery.com/accounts/MODNR/subscriber/new?topic_id=MODNR_128.

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